AIR CONDITIONING SYSTEMS

Models

C2VI-18/C 2VO-18

C2VI-24/C 2VO-24

inventor

Your-conditions

Wall Mounted Unit

Owner's Manual

inventor

Your-conditions

Thank you for choosing INVENTOR air conditioning system. For correct use of this unit, please read this manual carefully and keep it for future reference.

66129912893

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This symbol stands for the items should be forbidden.

This symbol stands for the items should be followed

The products in this manual may be different with the real one, according to different models, some models have displayer and some models without displayer, the position and shape of the displayer please refer to the real one.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.

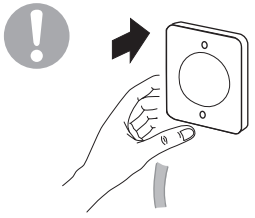
Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

◆ Safety Precautions

Please read the following notices before operation.

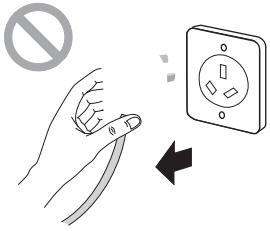
Warning

Make sure that the power plug is inserted tightly.



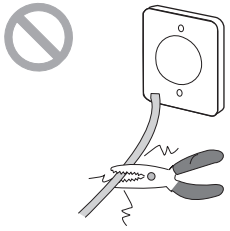
Otherwise, it may cause electric shock or fire.

Do not unplug the power plug when the unit is operating.



Otherwise, it may cause electric shock or fire.

Do not damage the power cord or use unspecified power cord.

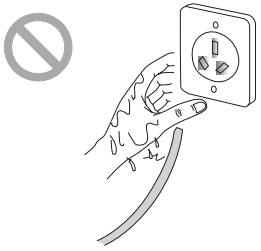


Otherwise, it may cause electric shock or fire.

Do not share the socket with other electric appliances or extend the power cord by using other sockets.

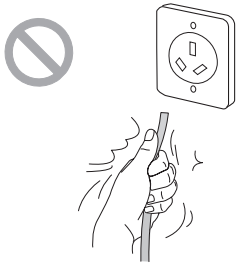
Otherwise, it may cause electric shock or fire.

Do not operate the air conditioner with wet hands.



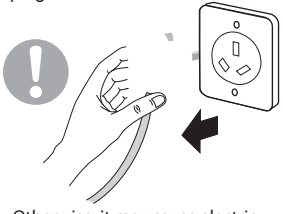
Otherwise, it may cause electric shock.

Do not drag the power cord to pull out the plug.



Otherwise, it may cause fire due to overheating of power cord.

Before cleaning the air conditioner,please turn off the air con-ditioner and unplug the power plug.



Otherwise, it may cause electric shock or injury.

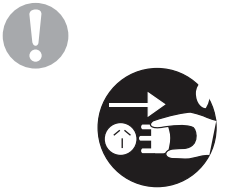
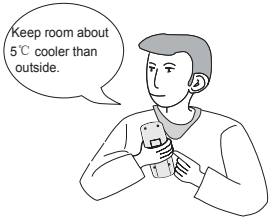
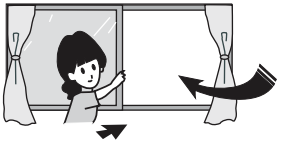
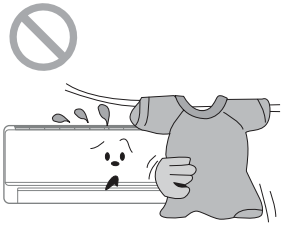
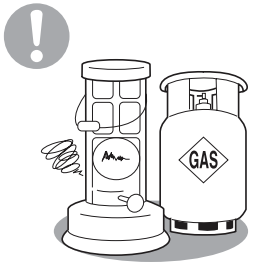
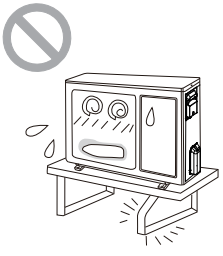
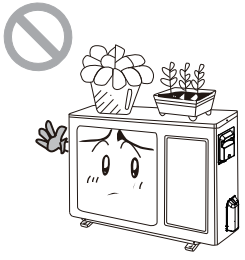
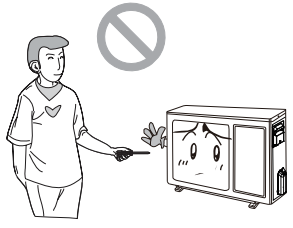
When the voltage is too low, the compressor will vibrate fiercely, which may damage the cooling system.

If there's abnormal phenomenon (like smell of burning), please cut off the power immediately and then contact with Inventor authorized maintenance center.

If there's abnormal phenomenon(like smell of burning), please cut off the power immediately and then contact with Inventor authorized maintenance center.

If this abnormal status is kept on, air conditioner may be damaged or even cause electric shock or fire.

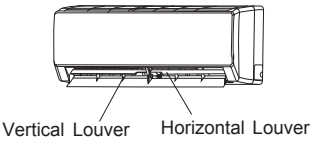
◆ Safety Precautions

⚠ ★ Always ensure effective earthing. No earthing may cause electric shock.	★ For safety, be sure to turn off the circuit beaker before performing any maintenance or cleaning or when the product is not used for an extended period of time.  Accumulated dust may cause fire or electric shock.	★ Select the most appropriate temperature.  It can save electric energy.
★ Do not keep windows and doors open for a long time during operation.  It will result in insufficient performance.	★ Do not block the air inlet or outlet.  It will result in insufficient performance and cause malfunctions.	★ Keep combustible materials at least 1m away from the units.  It may cause fire or explosion.
★ Install the outdoor unit firmly enough.  It may cause falling of the unit and injury to the person.	★ Do not step on the top of the outdoor unit or place heavy things on it.  It may cause damage or injury.	★ Do not attempt to repair the air conditioner by yourself.  Incorrect repairs may cause electric shock or fire. Please contact the local authorised service center.

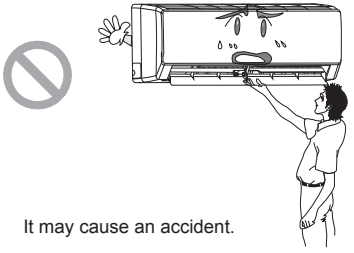
Safety Precautions

★ Do not cut off or damage the power cords or control cords. If they are damaged, please contact the dealer or qualified service personnel.

★ To change the airflow direction, adjust the vertical and horizontal air flow direction by using the remote controller.

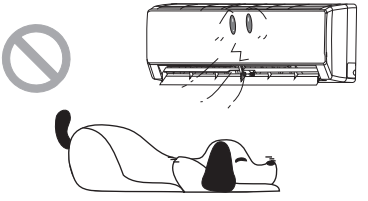


★ Do not insert your hands or objects into the air inlet or outlet.



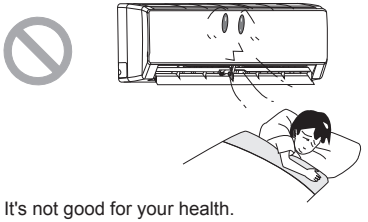
It may cause an accident.

★ Do not expose animals or plants directly to the air flow.



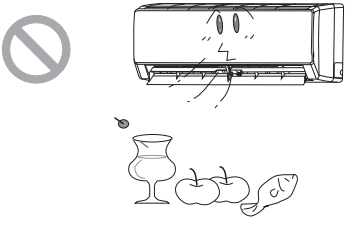
It may have a detrimental effect on them.

★ Do not expose yourself to cold air directly for a long time.

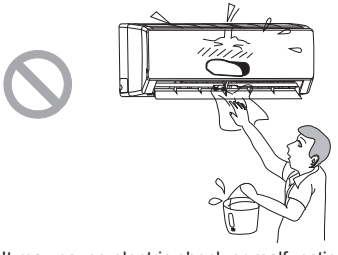


It's not good for your health.

★ Do not use the unit for any other purpose, such as preserving food or drying clothes.

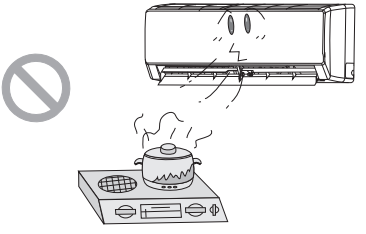


★ Do not splash water on the air conditioner.



It may cause electric shock or malfunction.

★ Do not place a burner near the air conditioner.



It will cause CO toxicosis due to incomplete burning.

Operation Tips

Cooling Operation

Principle:

Air conditioners absorb heat in the room and transmit it to the outdoor unit so that the room temperature is decreased. The cooling capacity will increase or decrease according to outdoor ambient temperature.

Freeze Protection:

If the unit is operating in COOL mode and in low ambient temperature, frost may form on the heat exchanger. When indoor heat exchanger temperature decreases below zero, compressor will stop operation to protect the unit.

Heating Operation

Principle:

* Air conditioners absorb heat from outdoors and transmit it to the indoor unit, increasing room temperature. The heating capacity will decrease at low ambient temperature.

Defrosting:

* When outdoor temperature is low but humidity is high, frost may form on the outdoor unit during extended operation, affecting heating efficiency. The air conditioner may stop operation during auto defrosting operation.
* During auto defrosting, the fan motors of indoor unit and outdoor unit will stop.
* During defrosting, the indoor indicator flashes and the outdoor unit may emit vapor. This is not malfunction.
* After defrosting is finished, the heating operation will recover automatically.

Anti-cold Air Function:

In HEAT mode, the indoor fan will not operate in order to prevent cold air blowing out (within 2 minutes) if indoor heat exchanger doesn't reach a certain temperature under the following three states:

1. Heating operation starts; 2. After Auto Defrosting is finished; 3.Heating at low temperature.

Rest Heat Blow

In the following situations, the indoor unit may still run for some time, to blow out the rest heat of the indoor unit.

1. In HEAT mode, the temperature reaches the setting value, the compressor stops and the indoor fan still run for 60s.
2. In HEAT mode, if you turn off the unit, the compressor stops and the indoor fan still run for 10s.

◆ Operation Tips

※ Operating Temperature Range		
	Indoor sideDB/WB(°C)	Outdoor sideDB/WB(°C)
Maximum cooling	32/23	43/26
Maximum heating	27/—	24/18

The operating temperature range (outdoor temperature) for cooling unit is 18℃~43℃; for cooling and heating unit is -7℃~43℃.

Tips for energy saving:

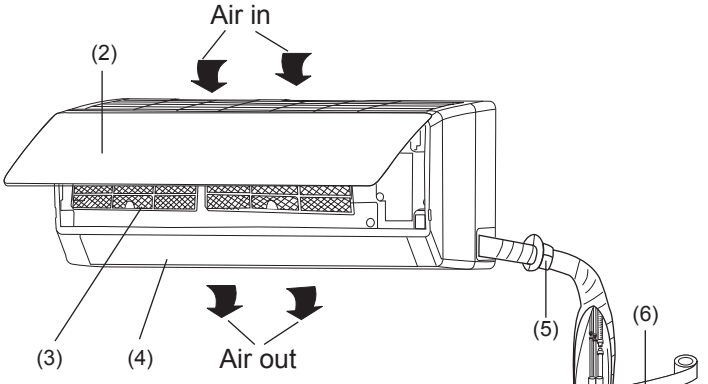
* Do not overcool or overheat.
  Setting temperature at a moderate level helps energy saving.
* Cover windows with a blind or a curtain.
  Blocking sunlight and air from outdoors is favorable for cooling (heating).
* Clean air filters once per two weeks.
  Clogged air filters lead to inefficient operation and energy waste.

Tip for relative humidity:

Condensate is likely to form at the air outlet if cooling or drying for a long time when the relative humidity is more than 80% (with doors and windows open).

◆ Name of Parts

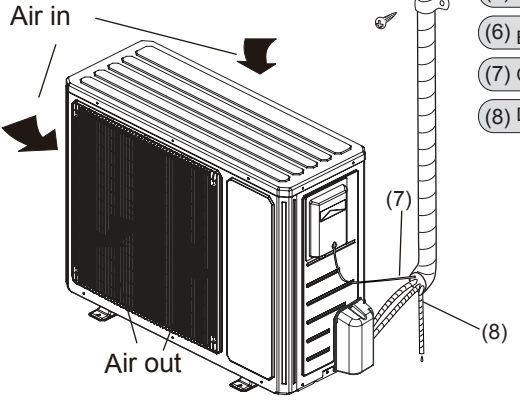
Indoor unit



The icons displayed:

: Cool
: Dry
: Heat
: Power
88 : Set temp.

Outdoor unit



(1) Remote control
(2) Front panel
(3) Filter
(4) Guide louver
(5) Wall pipe
(6) Bind tape
(7) Connection wire
(8) Drainage pipe

◆ Operation of Remote Controller

Remote Controller Description

1 ON/OFF
Press it to start or stop operation

2 MODE
Press it to select operation mode (AUTO/COOL/DRY/FAN/HEAT)

3 + : Press it to increase temperature setting

4 — : Press it to decrease temperature setting

5 FAN
Press it to set fan speed

6
Press it to set swing angle

7 TIMER ON
Press it to set auto-on timer

8 TIMER OFF
Press it to set auto-off timer

9 CLOCK
Press it to set clock

10 X-FAN (page 10)

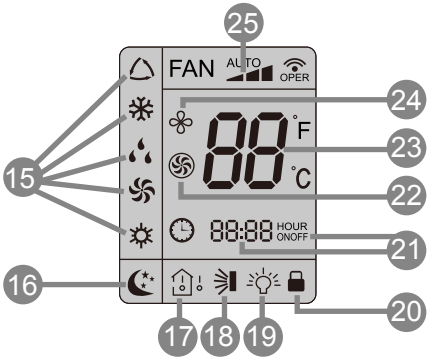
11 TEMP (page 10)

12 TURBO(page 10)

13 SLEEP(page 10)

14 LIGHT
Press it to turn on/off the light.

◆ Operation of Remote Controller



15 MODE icon:

If MODE button is pressed, current operation mode icon (AUTO), (COOL), (DRY), (FAN) or (HEAT is only for heat pump models) will show.

16 SLEEP icon :

is displayed by pressing the SLEEP button. Press this button again to clear the display.

17 TEMP icon:

Pressing TEMP button, (set temperature), (indoor ambient temperature) (outdoor ambient temperature) and blank is displayed circularly.

NOTE: " " function is applicable to partial of models.

18 Up & down swing icon:

is displayed when pressing the up & down swing button. Press this button again to clear the display.

19 LIGHT icon:

is displayed by pressing the LIGHT button.Press LIGHT button again to clear the display.

20 LOCK icon:

is displayed by pressing "+" and "-" buttons simultaneously. Press them again to clear the display.

21 SET TIME display:

After pressing TIMER button, ON or OFF will blink.This area will show the set time.

22 TURBO icon:

is displayed when pressing the TURBO button.Press this button again to clear the display.

23 DIGITAL display:

This area will show the set temperature.

24 X-FAN icon:

is displayed when pressing the X-FAN button. Press this button again to clear the display.

25 FAN SPEED display:

Press FAN button to select the desired fan speed setting(AUTO-Low-Med-High).Your selection will be displayed in the LCD windows, except the AUTO fan speed.

◆ Operation of Remote Controller

Remote Controller Description

1 ON/OFF :

Press this button to turn on the unit. Press this button again to turn off the unit.

2 MODE :

Each time you press this button,a mode is selected in a sequence that goes from AUTO, COOL,DRY, FAN, and HEAT *, as the following:

*Note: Only for models with heating function.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temperature to make indoor room comfortable.

3 + :

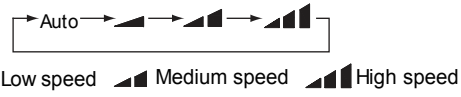
Press this button to increase set temperature. Hold it down for above 2 seconds to rapidly increase set temperature. In AUTO mode, set temperature is not adjustable.

4 —:

Press this button to decrease set temperature. Hold it down for above 2 seconds to rapidly decrease set temperature. In AUTO mode, set temperature is not adjustable.

5 FAN :

This button is used for setting fan speed in the sequence that goes from AUTO, , , to , then back to Auto.



6 :

Press this button to set up & down swing angle, which circularly changes as below:

This remote controller is universal. If any command , or is sent out, the unit will carry out the command as

indicates the guide louver swings as:

Operation of Remote Controller

7 TIMER ON:
Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again.
After pressing this button, ◷ disappears and "ON "blinks. 00:00 is displayed for ON time setting. Within 5 seconds, press + or - button to adjust the time value. Every press of either button changes the time setting by 1 minute. Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes. Within 5 seconds after setting, press TIMER ON button to confirm.

8 TIMER OFF:
Press this button to initiate the auto-off timer. To cancel the auto-timer program, simply press the button again.TIMER OFF setting is the same as TIMER ON.

9 CLOCK:
Pressing CLOCK button, ◷ blinks. Within 5 seconds, pressing + or - button adjusts the present time. Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting, press CLOCK button again to confirm the setting, and then ◷ will be constantly displayed.

10 X-FAN:
Pressing X-FAN button in COOL or DRY mode,the icon ✣ is displayed and the indoor fan will continue operation for 2 minutes in order to dry the indoor unit even though you have turned off the unit.
After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.
Note:X-FAN is the alternative expression of BLOW for the purpose of under standing.

11 TEMP:
Press this button, you can see indoor set temperature, indoor ambient temperature on indoor unit's display. The setting on remote controller is selected circularly as below:

When selecting " ⌂ " with remote controller or no display, temperature indicator on indoor unit displays set temperature; When selecting " ⌂ " with remote controller, temperature indicator on indoor unit displays indoor ambient temperature; 3s later or within 3s it receives other remote control signal that will return to display the setting temperature.
Caution:
- This model hasn't outdoor ambient temperature display function. While remote controller can operate " ⌂ " and indoor unit displays set temperature.
- It's defaulted to display set temperature when turning on the unit.
- Only for the models with temperature indicator on indoor unit.

12 TURBO:
Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in the shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed. (This function is not applicable for some models).

13 SLEEP:
Press this button to go into the SLEEP operation mode. Press it again to cancel this function. This function is available in COOL, HEAT (Only for models with heating function) mode to maintain the most comfortable temperature for you.

Operation of Remote Controller

14 LIGHT:

Press LIGHT button to turn on the display's light and press this button again to turn off the display's light. If the light is turned on , is displayed. If the light is tunrned off, disappears.

15 Combination of "+" and "-" buttons: About lock

Press "+" and "-" buttons simultaneously to lock or unlock the keypad. If the remote controller is locked, is displayed. In this case, pressing any button, blinks three times.

16 Combination of "MODE" and "-" buttons: About switch between Fahrenheit and Centigrade

At unit OFF, press "MODE" and "-" buttons simultaneously to switch between ℃ and ℉.

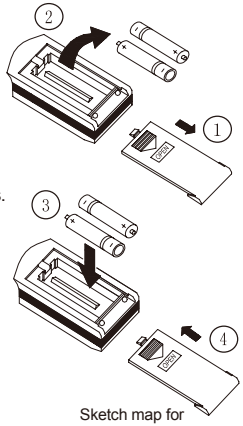
Replacement of Batteries

1.Remove the battery cover plate from the rear of the remote controller. (As shown in the figure)

2.Take out the old batteries.

3.Insert two new AAA1.5V dry batteries, and pay attention to the polarity.

4. Reinstall the battery cover plate.



Sketch map for replacing batteries

★ Notes:

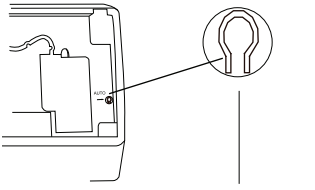
- When replacing the batteries, do not use old or different types of batteries. Otherwise, it may cause malfunction.
- If the remote controller will not be used for a long time, please remove batteries to prevent batteries from leaking.
- The operation should be performed in its receiving range.
- It should be kept 1m away from the TV set or stereo sound sets.
- If the remote controller does not operate normally, please take the batteries out and reinsert them after 30 seconds. If it still can't operate properly, replace the batteries.

◆ Emergency Operation

Emergency Operation

When the remote controller is lost or damaged, please use the manual switch on the main unit. In that case, the unit will operate in AUTO mode and the temperature setting or fan speed can not be changed.

The manual switch can be operated as below:



- Turn on the unit: Press AUTO/STOP button to enter AUTO mode.
  The microprocessor will select the mode (COOL, HEAT, FAN) automatically according to the room temperature for reaching comfortable effect.
- Turn off the unit: Press the AUTO/STOP button to switch off the unit.
- The operation mode is shown in the following table.

Mode	Model	Temperature setting	Airflow rate
AUTO	COOLING	25℃ (COOL,FAN)	AUTO
AUTO	HEAT PUMP	25℃ (COOL,FAN)	AUTO
AUTO	HEAT PUMP	20℃ (HEAT)	AUTO

- This switch is to be applied when the remote controller is missing.

◆ Care and Cleaning

Caution

- Disconnect the power supply before cleaning and maintenance.
- Do not splash water on the units for cleaning, as electric shocks may occur.
- Wipe the units with a dry soft cloth, or a cloth slightly moistened with water or cleaner (not with volatile liquid such as thinner or gasoline).

Cleaning the Front Panel

Remove the front panel. Dip a piece of cloth into the water colder than 45 ℃ and dry it. Then wipe the dirty part of front panel.

Note: Do not immerse the front panel into water so as to protect microprocessor components and circuit diagram on the front panel.

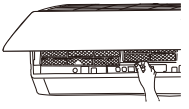
Cleaning the Air Filter (every 3 months)

Note: Do not touch the fin of indoor unit during cleaning to avoid personal injury.

① Take down the air filter

Lift up the front panel.
Pull the air filter downwards to take it off, as shown in Fig.(a,b).

(Fig. a)

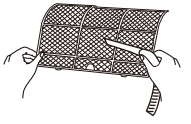


(Fig. b)

② Clean the air filter

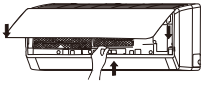
Use a vacuum cleaner to remove dust.
If the filters are dirty, wash them with warm water and mild detergent.
Dry the filters in the shade.

Note: Never use water above 45℃ to clean the air filter as it may cause deformation or discoloration.



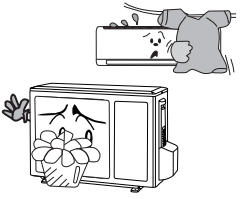
③ Reinstall the air filter

Reinstall the filters along the direction of arrowhead.
Close the panel.



◆ Care and Cleaning

Check before Use



① Be sure that nothing obstructs the air outlet and inlet.

② Check if the batteries of remote controller are replaced.

③ Check if the installation stand of the outdoor unit is damaged. If damaged, consult the technicians.

Maintenance after Use

① Switch off the power supply.

② Clean the filters and bodies of indoor and outdoor units.

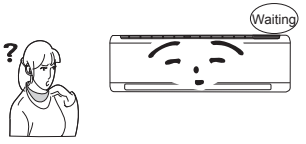
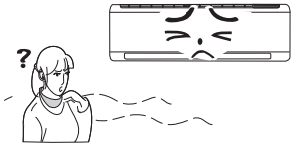
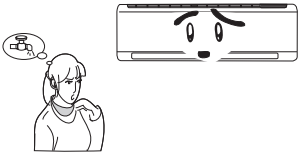
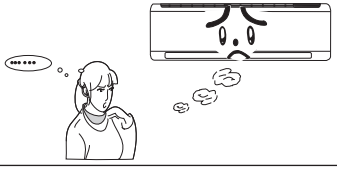
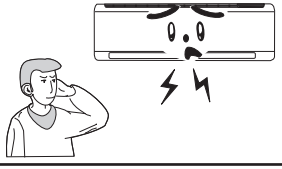
③ Clear obstructions from the outdoor unit.

④ Repaint the rubiginous place on the outdoor unit to prevent it from spreading.

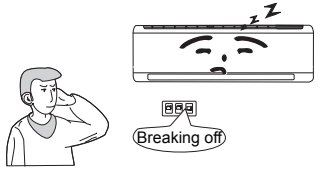
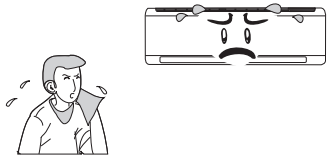
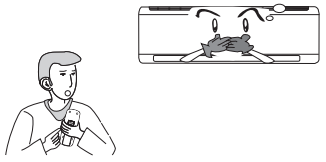
◆ Troubleshooting

CAUTION

The air conditioner is not expected to be serviced by users. Incorrect repair may cause electric shock or fire, so please contact an authorized service center for professional service. The following checks prior to contact may save your time and money.

Phenomenon	Troubleshooting
The unit does not operate: 	• The unit does not operate if it is turned on immediately after being turned off. This is to protect the unit. You are expected to wait for about 3 minutes.
Odours are emitted: 	• Some odours may be emitted from the indoor unit. This is the result of room smells (such as furniture, tobacco, ect.) which have been taken into the air conditioner. • Consult authorized service center for cleaning if the odours still exist.
"Water flowing" noise: 	• The swishing noise like water flowing is the sound of refrigerant flowing inside the unit.
Mist is emitted in COOL mode: 	• During cooling operation, a thin mist may be seen emitted from the indoor unit due to high room temperature and humidity. After a period of time, the mist will disappear with the decrease of room temperature and humidity.
Cracking noise: 	• This is the sound of friction caused by expansion and/or contraction of panel or other parts due to the change of temperature.

◆ Troubleshooting

Phenomenon	Troubleshooting
The unit can not be started up : 	• Is the power cut off? • Is the power plug loose? (If applicable) • Is the circuit protection device tripped off? • Is voltage higher or lower? (Tested by professionals) • Is the TIMER correctly used?
Cooling/Heating effect is poor : 	• Is temperature setting appropriate? • Is the inlet or outlet blocked? • Is the filter dirty? • Is the window or the door open? • Is low fan speed set? • Are there heat sources in the room?
Remote controller is not available : 	• Check if there is magnetic or electrical interference near the unit that may affecting operation of the controller. In this case, pull the plug out and reinsert it. • Is the remote controller within its operating range or obstructed? Check the condition of the batteries and replace them if necessary. • Check if the remote controller is damaged.
Water leakage of indoor unit :	• The humidity is high. • Condensate overflows. • Drain hose is loose.
Water leakage of outdoor unit :	• During cooling operation, condensate is generated around the pipes and connection joints. • During defrosting operation, the thaw water flows out. • During heating operation, the water on the heat exchanger drips out.
Noise from indoor unit :	• The noise emitted when the fan or compressor relay is switching on or off. • When the defrosting operation is started or stopped, there is a sound of refrigerant flowing in the reverse direction.

◆ Troubleshooting

Phenomenon	Troubleshooting
Indoor unit can not blow air:	• In HEAT mode, when the temperature of indoor heat exchanger is very low, air flow is stopped in order to prevent cold air. (Within 2 minutes) • In HEAT mode, when the outdoor temperature is low or humidity is high, frost will be formed on the outdoor heat exchanger. The unit will defrost automatically and indoor unit will stop blowing air for 3-12 minutes. • During defrosting operation, water or vapour may be emitted. • In DRY mode, the indoor fan will stop blowing air for 3-12 minutes in order to avoid condensate being vaporised again.
Moisture on air outlet:	• If the unit operates at high humidity for a long time, moisture will be generated on the air outlet grill and then drip off.
C5: Malfunction of connector jumper:	• Check if the connector jumper contacts properly. If the PCB is to be replaced, please take off the old for the new PCB.
F1: Malfunction of indoor ambient temperature sensor	• Check if indoor room temperature sensor is connected properly.
F2: Malfunction of evaporator temperature sensor	• Check if the evaporator temperature is connected properly.
Defrosting or oil return mode	• It is normal. • The indicating lamp in heat mode will wink 0.5s and light 10s.
H6: Indoor fan block	• Check if the terminal of the indoor motor is connected properly. • Replace the fan motor or the indoor board if disabled.

If any one of the following situations occurs, immediately stop all operations cut off the power supply, and contact the authorized personnel.

- There is harsh sound during operation.
- Strong odours are emitted during operation.
- Water is leaking from the unit.
- The air switch or protection switch often trips.
- Water or other liquid is splashed into the unit.
- Power cord and power plug is overheating.

▶ Stop operation and cut off the power supply.

◆ Notices for installation

Caution

1. The unit should be installed only by authorized service center according to local or government regulations and in compliance with this manual.
2. Before installing, please contact with local authorized maintenance center. If the unit is not installed by the authorized service center, the malfunction may not be solved due to incovenient contact between the user and the service personnel.
3. When removing the unit to the other place, please firstly contact with the local authorized service center.
4. Warning: Before obtaining access to terminals, all supply circuits must be disconnected.
5. For appliances with type Y attachment, the instructions shall contain the substance of the following. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
6. The appliance must be positioned so that the plug is accessible.
7. The temperature of refrigerant line will be high; please keep the interconnection cable away from the copper tube.
8. The instructions shall state the substance of the following:
   This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
   Children should be supervised to ensure that they do not play with the appliance.

Installation Site Instructions

Proper installation site is vital for correct and efficient operation of the unit. Avoid the following sites where:

- Strong heat sources, vapours, flammable gas or volatile liquids are emitted.
- High-frequency electro-magnetic waves are generated by radio equipment, Welders and medical equipment.
- Salt-laden air prevails (such as close to coastal areas).
- The air is contaminated with industrial vapours and oils.
- The air contains sulphures gas such as in hot spring zones.
- Corrosion or poor air quality exists.

◆ Notices for installation

Installation Site of Indoor Unit

1. The air inlet and outlet should be away from the obstructions. Ensure the air can be blown through the whole room.
2. Select a site where the condensate can be easily drained out, and where it is easily connected to outdoor unit.
3. Select a place where it is out of reach of children.
4. Select a place where the wall is strong enough to withstand the full weight and vibration of the unit.
5. Be sure to leave enough space to allow access for routine maintenance. The installation site should be 250cm or more above the floor.
6. Select a place about 1m or more away from TV set or any other electric appliance.
7. Select a place where the filter can be easily taken out.
8. Make sure that the indoor unit is installed in accordance with installation dimension instructions.
9. Do not use the unit in the laundry or by swimming pool etc.

Installation Site of Outdoor Unit

1. Select a site where noise and outflow air emitted by the unit will not annoy neighbors.
2. Select a site where there is sufficient ventilation.
3. Select a site where there is no obstruction blocking the inlet and outlet.
4. The site should be able to withstand the full weight and vibration.
5. Select a dry place, but do not expose the unit to direct sunlight or strong wind.
6. Make sure that the outdoor unit is installed in accordance with the installation instructions, and is convenient for maintenance and repair.
7. The height difference between indoor and outdoor units is within 5m, and the length of the connecting tubing does not exceed 10m.
8. Select a place where it is out of reach of children.
9. Select a place where the unit does not have negative impact on pedestrians or on the city.

Safety Precautions for Electric Appliances

1. A dedicated power supply circuit should be used in accordance with local electrical safety regulations.
2. Don't drag the power cord with excessive force.
3. The unit should be reliably earthed and connected to an exclusive earth device by the professionals.
4. The air switch must have the functions of magnetic tripping and heat tripping to prevent short circuit and overload.
5. The minimum distance between the unit and combustive surface is 1.5m.
6. The appliance shall be installed in accordance with national wiring regulations.
7. An all-pole disconnection switch with a contact separation of at least 3mm in all poles should be connected in fixed wiring.

Note:

- Make sure the live wire, neutral wire and earth wire in the family power socket are properly connected. There should be reliable circuit in the diagram.
- Inadequate or incorrect electrical connections may cause electric shock or fire.

◆ Notices for installation

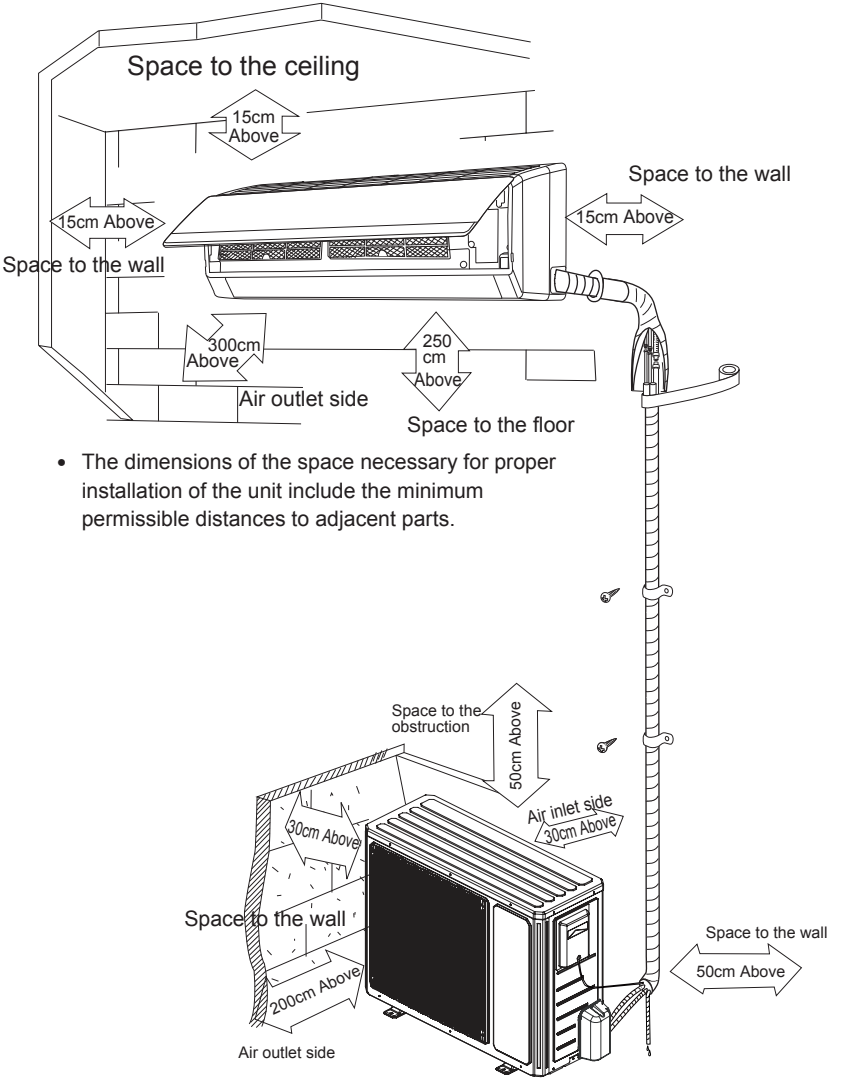
Earthing Requirements

1. Air conditioner is type I electric appliance. Please ensure that the unit is reliably earthed.
2. The yellow-green wire in air conditioner is the earthing wire which can not be used for other purposes. Improper earthing may cause electric shock.
3. The earth resistance should accord to the national criterion.
4. The power must have reliable earthing terminal. Please do not connect the earthing wire with the following:
   ① Water pipe ② Gas ③ Contamination pipe
   ④ Other place that professional personnel consider is unreliable
5. Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner (W)	Air switch capacity
18、24K	25A

Installation Drawing

Installation Drawing



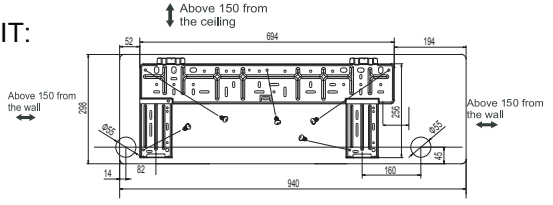
- The dimensions of the space necessary for proper installation of the unit include the minimum permissible distances to adjacent parts.

Installation of Indoor Unit

Installation of Mounting Plate

1. Mounting plate should be installed horizontally. As the water tray's outlet for the indoor unit is two-way type, during installation, the indoor unit should slightly slant to water tray's outlet for smooth drainage of condensate.
2. Fix the mounting plate on the wall with screws.
3. Be sure that the mounting plate has been fixed firmly enough to withstand about 60 kg. Meanwhile, the weight should be evenly shared by each screw.

18K UNIT:



24K UNIT:

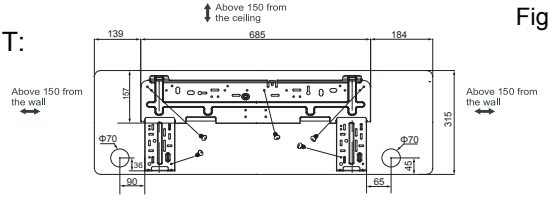
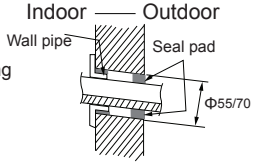


Fig.5

Drill Piping Hole

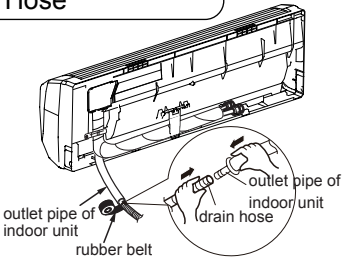
1.Slant the piping hole (Φ55/70) on the wall slightly downward to the outdoor side.

2.Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

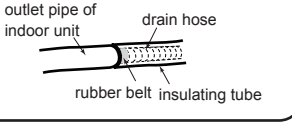


Installation of Drain Hose

1. Connect the drain hose to the outlet pipe of the indoor unit. Bind the joint with rubber belt.

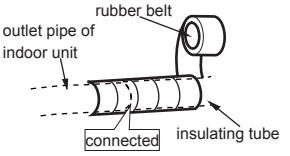


2. Put the drain hose into insulating tube.

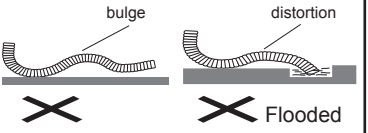


Installation of Indoor Unit

3. Wrap the insulating tube with wide rubber belt to prevent the shift of insulating tube. Slant the drain hose downward slightly for smooth drainage of condensate.



Note: The insulating tube should be connected reliably with the sleeve outside the outlet pipe. The drain hose should be slanted downward slightly, without distortion, bulge or fluctuation. Do not put the outlet in the water.



Connecting Indoor and Outdoor Electric Wires

1. Open the front panel.
2. Remove the wiring cover as shown in Fig 6.
3. Make the power connection cord pass through the hole at the back of indoor unit.
4. Reinstall the cord anchorage and wiring cover.
5. Reinstall the front panel.

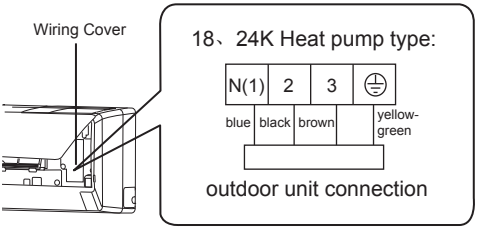


Fig.6

NOTE:

All wires between indoor and outdoor units must be connected by the qualified electric contractor.

- Electric wires must be connected correctly. Improper connection may cause malfunction.
- Tighten the terminal screws securely.
- After tightening the screws, pull the wire slightly to confirm whether it's firm or not.
- Make sure that the electric connections are earthed properly to prevent electric shock.
- Make sure that all wiring connections are secure and the cover plates are reinstalled properly. Poor installation may cause fire or electric shock.

◆ Installation of Indoor Unit

Installation of Indoor Unit

- The piping can be output from right, right rear, left or left rear.

1. When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis when necessary(As shown in Fig.7)
   (1) Cut off tailing 1 when routing the wiring only;
   (2) Cut off tailing 1 and tailing 2 when routing both the wiring and piping.
2. Take out the piping from body case; wrap the piping, power cords, drain hose with the tape and then make them pass through the piping hole. (As shown in Fig.8)
3. Hang the mounting slots of the indoor unit on the upper hooks of the mounting plate and check if it is firm enough.(As shown in Fig.9)
4. The installation site should be 250cm or more above the floor.

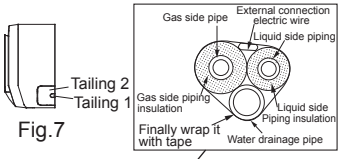


Fig.7

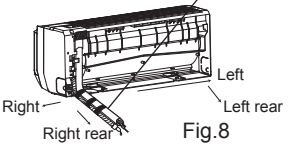


Fig.8

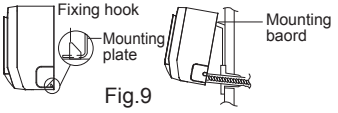
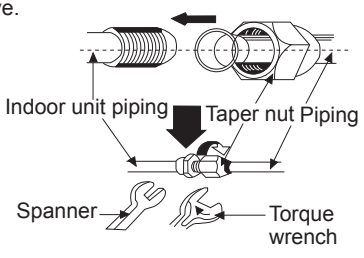


Fig.9

Installation of Connection Pipe

1. Align the center of the pipe flare with the related valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench by referring to the following:

Tube diameter	Tightening torque,approximate(N·m)
Φ 6.35(1/4")	14 ~ 18 N·m(140-180kgf.cm)
Φ 9.52(3/8")	34 ~ 42 N·m(340-420kgf.cm)
Φ 12.7(1/2")	49 ~ 61 N·m(490-610kgf.cm)
Φ 15.88(5/8")	68 ~ 82 N·m(680-820kgf.cm)

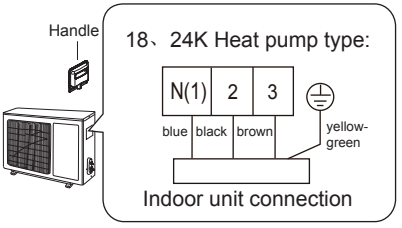


NOTE: Connect the connection pipe to indoor unit at first and then to outdoor unit. Handle piping bending with care. Do not damage the connection pipe. Ensure that the joint nut is tightened firmly, otherwise, it may cause leakage.

◆ Installation of Outdoor Unit

Electric wiring

1. Remove the handle on the right side plate of outdoor unit.
2. Take off wire cord anchorage. Connect and fix power cord to the terminal board. Wiring should fit that of indoor unit.
3. Fix the power cord with wire clamps and then connect the corresponding connector.
4. Confirm if the wire has been fixed properly.
5. Reinstall the handle.



NOTE:

- Incorrect wiring may cause malfunction of spare part.
- After the wire has been fixed, ensure there is freespace between the connection and fixing places on the lead wire.

Schematic diagram being reference only, please refer to real product for authentic information.

Air purging and leakage test

1. Connect charging hose of manifold valve to charge end of low pressure valve (both high/low pressure valves must be tightly shut).
2. Connect joint of charging hose to vacuum pump.
3. Fully open handle handle of Lo manifold valve.
4. Open the vacuum pump to evacuate. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside. (If noise of vacuum pump has been changed, the reading of multimeter is 0) Then tighten the nut.
5. Keep evacuating for more than 15mins and make sure the reading of multimeter is -1.0×10^5 pa (-76cmHg).
6. Fully open high/low pressure valves.
7. Remove charging hose from charging end of low pressure valve.
8. Tighten bonnet of low-pressure valve. (As shown in Fig.10)

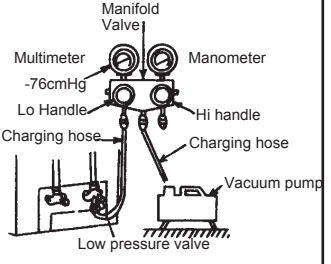


Fig.10

◆ Check after installation and test operation

Check after installation

Items to be checked	Possible malfunction
Has it been fixed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling(heating) capacity
Is heat insulation sufficient?	It may cause condensation and dripping.
Is water drainage well?	It may cause condensation and dripping.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage the part.
Is the electric wiring and piping connection installed correctly and securely?	It may cause electric malfunction or damage the part.
Has the unit been connected to a secure earth connection?	It may cause electrical leakage.
Is the power cord specified?	It may cause electric malfunction or damage the part.
Is the inlet and outlet been covered?	It may cause insufficient cooling(heating) capacity.
Has the length of connection pipes and refrigerant capacity been recorded?	The refrigerant capacity is not accurate.

Test Operation

1. Before test operation
   (1) Do not switch on power before installation isfinished completely.
   (2) Electric wiring must be connected correctly and securely.
   (3) Cut-off valves of the connection pipes should be opened.
   (4) All the impurities such as scraps and thrums must be cleared from the unit.
2. Test operation method
   (1) Switch on power, press "ON/OFF" button on the wireless remote control to start the operation.
   (2) Press MODE button, to select the COOL,HEAT (Cooling only unit is not available), FAN to check whether the operation is normal or not.

◆ Installation and Maintenance of Healthy Filter

Installation Instructions

1. Forcibly pull the panel for a specific angle from the two ends of the front panel according to the arrow direction.Then pull the air filter downwards to remove it. (See Fig.a)

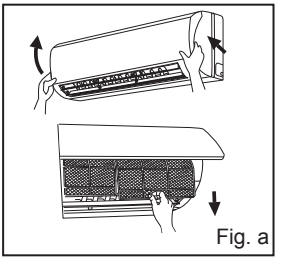


Fig. a

2. Mount the healthy filter onto the air filter,(as shown in Fig.b). If the air filter cannot be installed, please mount the healthy filter on the front case. (as shown in Fig.c)

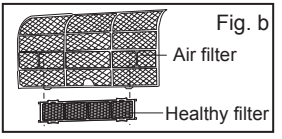


Fig. b

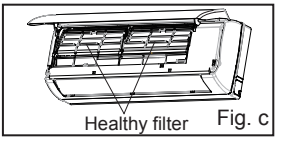


Fig. c

3. Mount the air filter properly along the arrow direction in Fig.d, and then close the panel cover.

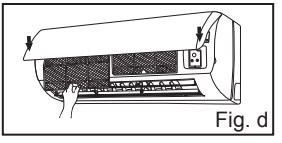


Fig. d

Cleaning and Maintenance

Take out the healthy filter before cleaning and reinstall it after cleaning according to the installation instruction. Pay special attention to that silver ion filter can't be cleaned with water, while active carbon, photocatalyst, low temperature conversion (LTC) catalyst, formaldehyde eliminator, catechin or mite killing filter can, but can't with brush or hard things. Dry it in the shade or sun after cleaning, but not by wiping.

Service Life

The healthy filter commonly has its usage lifetime for one year under normal condition. As for silver ion filter, it is invalid when its surface becomes black (green).

● This supplementary instruction is provided for reference to the unit with healthy filter. If the graphics provided herein is different from the physical goods, the latter one shall prevail.The quantity of healthy filters shall be based on the actual delivery.

◆ Configuration of connection pipe and additional volume of refrigerant

1. Standard length of connection pipe
   5m、7.5m、8m
2. Min length of connection pipe
   For the unit with standard connection pipe of 5m, there is no limitation for the min length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.
3. Max length of connection pipe

Sheet 1 Max length of connection pipe Unit: m

Capacity	Max length of connection pipe		Capacity	Max length of connection pipe
5000 Btu/h（1465 W）	15		24000 Btu/h（7032 W）	25
7000 Btu/h（2051 W）	15		28000 Btu/h（8204 W）	30
9000 Btu/h（2637 W）	15		36000 Btu/h（10548 W）	30
12000 Btu/h（3516 W）	20		42000 Btu/h（12306 W）	30
18000 Btu/h（5274 W）	25		48000 Btu/h（14064 W）	30

4. The calculation method of additional refrigerant oil and refrigerant charging amount after prolonging connection pipe
   After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.
   The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
   (1) Additional refrigerant charging amount= prolonged length of liquid pipe × additional refrigerant charging amount per meter
   (2) When the length of connection pipe is above 5m, add refrigerant according to the prolonged length of liquid pipe. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See Sheet 2.

◆ Configuration of connection pipe and additional volume of refrigerant

Sheet 2. Additional refrigerant charging amount for R22, R407C, R410A and R134a

Diameter of connection pipe mm		Indoor unit throttle	Outdoor unit throttle	
Liquid pipe	Gas pipe	Cooling only, cooling and heating (g / m)	Cooling only (g / m)	Cooling and heating (g / m)
Φ6	Φ9.5 or Φ12	20	15	20
Φ6 or Φ9.5	Φ16 or Φ19	50	15	50
Φ12	Φ19 or Φ22.2	100	30	120
Φ16	Φ25.4 or Φ31.8	170	60	120
Φ19	-	250	250	250
Φ22.2	-	350	350	350

Note: The additional refrigerant charging amount in Sheet 2 is recommended value, not compulsory.